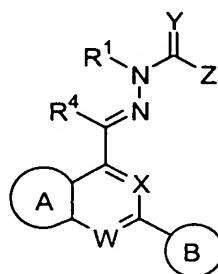


# WHAT IS CLAIMED IS:

1. A compound having the formula:



wherein

W and X are independently selected from the group consisting of N and CH;

Y is selected from the group consisting of O, S and N(R);

wherein R is selected from the group consisting of H, CN, NO<sub>2</sub>, (C<sub>1</sub>-C<sub>10</sub>)alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>4</sub>-C<sub>10</sub>)cycloalkyl-alkyl, (C<sub>3</sub>-C<sub>10</sub>)alkenyl and (C<sub>2</sub>-C<sub>10</sub>)alkynyl;

Z is selected from the group consisting of H, (C<sub>1</sub>-C<sub>10</sub>)alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>4</sub>-C<sub>10</sub>)cycloalkyl-alkyl, (C<sub>2</sub>-C<sub>10</sub>)alkenyl, (C<sub>2</sub>-C<sub>10</sub>)alkynyl and NR<sup>2</sup>R<sup>3</sup>;

R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> are independently selected from the group consisting of H, (C<sub>1</sub>-C<sub>10</sub>)alkyl, (C<sub>3</sub>-C<sub>10</sub>)alkenyl, (C<sub>2</sub>-C<sub>10</sub>)alkynyl, (C<sub>1</sub>-C<sub>10</sub>)heteroalkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>4</sub>-C<sub>10</sub>)cycloalkyl-alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloheteroalkyl-alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloheteroalkyl, aryl, aryl(C<sub>1</sub>-C<sub>4</sub>)alkyl, aryl(C<sub>1</sub>-C<sub>4</sub>)heteroalkyl, heteroaryl(C<sub>1</sub>-C<sub>4</sub>)alkyl, heteroaryl(C<sub>1</sub>-C<sub>4</sub>)heteroalkyl and perfluoro(C<sub>1</sub>-C<sub>6</sub>)alkyl; and wherein when Z is NR<sup>2</sup>R<sup>3</sup>, R<sup>2</sup> and R<sup>3</sup> can be combined to form a 5- to 7-membered heterocyclyl ring;

R<sup>4</sup> is selected from the group consisting of H, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, (C<sub>4</sub>-C<sub>7</sub>)cycloalkyl-alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl and (C<sub>2</sub>-C<sub>6</sub>)alkynyl;

A is a substituted or unsubstituted fused carbocyclic or heterocyclic ring system, said ring system being mono- or bicyclic wherein said mono- or bicyclic rings are selected from the group consisting of five- and six-membered rings that are aromatic or partially or completely saturated; and

B is a substituted or unsubstituted five- or six-membered ring which is aromatic or partially or completely saturated, containing at least one nitrogen atom, and from 0 to 3 additional heteroatoms, wherein the B ring substituents are selected from the group consisting of halogen, CF<sub>3</sub>, CF<sub>3</sub>O, (C<sub>1</sub>-C<sub>6</sub>)alkyl,

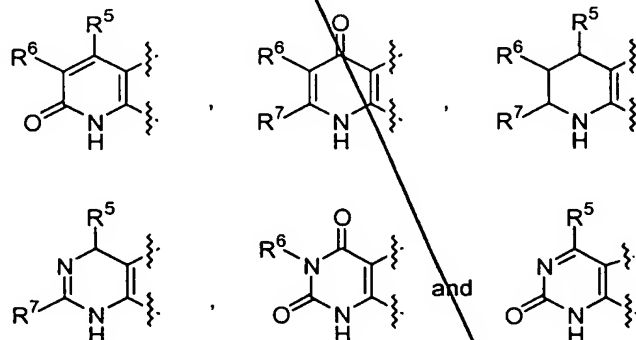
perfluoro(C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, (C<sub>1</sub>-C<sub>6</sub>)heteroalkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>1</sub>-C<sub>6</sub>)thioalkoxy, amino, (C<sub>1</sub>-C<sub>6</sub>)alkylamino, di(C<sub>1</sub>-C<sub>6</sub>)alkylamino, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>4</sub>-C<sub>10</sub>)cycloalkyl-alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloheteroalkyl, cyano, nitro, sulfonamido, (C<sub>1</sub>-C<sub>6</sub>)acyl, (C<sub>1</sub>-C<sub>6</sub>)acylamino, (C<sub>1</sub>-C<sub>6</sub>)alkoxycarbonyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxycarbonyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, carboxamido and (C<sub>1</sub>-C<sub>6</sub>)heteroalkoxy.

2. A compound of claim 1, wherein W is N and X is CH.
3. A compound of claim 1, wherein W is N and X is N.
4. A compound of claim 1, wherein W is CH and X is N.
5. A compound of claim 1, wherein W is CH and X is CH.

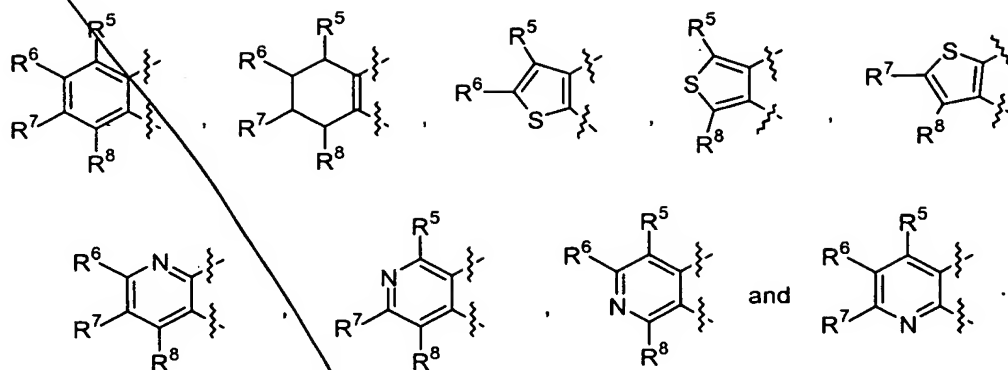
6. A compound of claim 2, wherein Y is selected from the group consisting of O and S.

7. A compound of claim 2, wherein Y is O.
8. A compound of claim 2, wherein Y is S.
9. A compound of claim 2, wherein Z is NR<sup>2</sup>R<sup>3</sup>.
10. A compound of claim 6, wherein R<sup>4</sup> is H.

11. A compound of claim 1, wherein A is selected from the group consisting of:



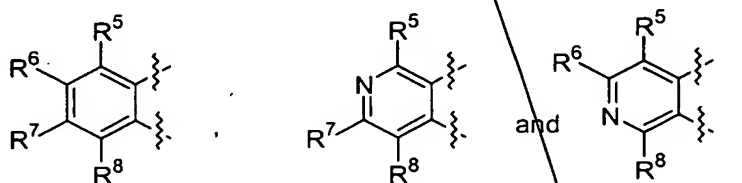
12. A compound of claim 1, wherein A is selected from the group consisting of:



wherein

$R^5$ ,  $R^6$ ,  $R^7$  and  $R^8$  are independently selected from the group consisting of H, halogen,  $CF_3$ ,  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl,  $(C_2-C_6)$ alkynyl,  $(C_1-C_6)$ heteroalkyl,  $(C_1-C_6)$ alkoxy,  $(C_1-C_6)$ thioalkoxy, amino,  $(C_1-C_6)$ alkylamino, di $(C_1-C_6)$ alkylamino,  $(C_3-C_{10})$ cycloalkyl,  $(C_4-C_{10})$ cycloalkyl-alkyl,  $(C_3-C_{10})$ cycloheteroalkyl,  $(C_3-C_{10})$ cycloheteroalkyl-alkyl, cyano, nitro,  $(C_1-C_6)$ acyl,  $(C_1-C_6)$ acylamino,  $(C_1-C_6)$ alkoxycarbonyl,  $(C_1-C_6)$ alkoxycarbonyl  $(C_1-C_6)$ alkyl,  $CONH_2$ ,  $CO-NH-(C_1-C_6)$ alkyl,  $CO-N[(C_1-C_6)alkyl]_2$ ,  $SO_2NH_2$ ,  $SO_2NH-(C_1-C_6)alkyl$ ,  $SO_2N-[(C_1-C_6)alkyl]_2$  and  $(C_1-C_6)$ heteroalkoxy; or two adjacent R groups selected from  $R^5$ ,  $R^6$ ,  $R^7$  and  $R^8$ , can be linked together to form a new 5- or 6-membered carbocyclic or heterocyclic ring.

13. A compound of claim 12, wherein W is N; X is CH; Y is O or S; and A is selected from the group consisting of:



14. A compound of claim 1, wherein B contains a nitrogen atom at a position two atoms away from the atom attaching B to the remainder of the molecule.

15. A compound of claim 1, wherein B contains a nitrogen atom at the point of attachment of B to the remainder of the molecule.

16. A compound of claim 1, wherein B is selected from the group consisting of 1-methylimidazol-5-yl, 1-(trifluoromethyl)imidazol-5-yl, 5-methylimidazol-

1-yl, 5-(trifluoromethyl)imidazol-1-yl, thiazol-5-yl, imidazol-1-yl, 1-methyl-1,3,4-triazolyl, and 4-methyl-1,2,4-triazol-3-yl.

17. A compound of claim 1, wherein B is selected from the group consisting of substituted or unsubstituted imidazolyl, substituted or unsubstituted thiazolyl and substituted or unsubstituted triazolyl.

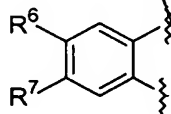
18. A compound of claim 13, wherein B contains a nitrogen atom at a position two atoms away from the atom attaching B to the remainder of the molecule.

19. A compound of claim 13, wherein B contains a nitrogen atom at the point of attachment of B to the remainder of the molecule.

20. A compound of claim 13, wherein B is selected from the group consisting of 1-methylimidazol-5-yl, 1-(trifluoromethyl)imidazol-5-yl, 5-methylimidazol-1-yl, 5-(trifluoromethyl)imidazol-1-yl, thiazol-5-yl, imidazol-1-yl, 1-methyl-1,3,4-triazolyl, and 4-methyl-1,2,4-triazol-3-yl.

21. A compound of claim 13, wherein B is selected from the group consisting of substituted or unsubstituted imidazolyl, substituted or unsubstituted thiazolyl and substituted or unsubstituted triazolyl.

22. A compound of claim 1, wherein W is N; X is CH; Y is O or S; Z is H, CH<sub>3</sub>, NH<sub>2</sub> or NHCH<sub>3</sub>; R<sup>1</sup> is H, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>10</sub>)heteroalkyl, (C<sub>4</sub>-C<sub>10</sub>)cycloheteroalkyl-alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloheteroalkyl, aryl(C<sub>1</sub>-C<sub>4</sub>)alkyl, aryl(C<sub>1</sub>-C<sub>4</sub>)heteroalkyl, heteroaryl(C<sub>1</sub>-C<sub>4</sub>)alkyl, heteroaryl(C<sub>1</sub>-C<sub>4</sub>)heteroalkyl, or perfluoro(C<sub>1</sub>-C<sub>6</sub>)alkyl; R<sup>4</sup> is H; A represents

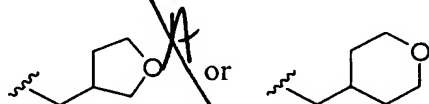


wherein R<sup>6</sup> and R<sup>7</sup> are independently selected from the group consisting of H, halogen, CF<sub>3</sub>, CF<sub>3</sub>O, (C<sub>1</sub>-C<sub>4</sub>)alkyl, (C<sub>2</sub>-C<sub>4</sub>)alkenyl, (C<sub>2</sub>-C<sub>4</sub>)alkynyl, (C<sub>1</sub>-C<sub>4</sub>)heteroalkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloheteroalkyl-alkyl and cyano; and B is a five-membered aromatic ring system containing at least one nitrogen atom.

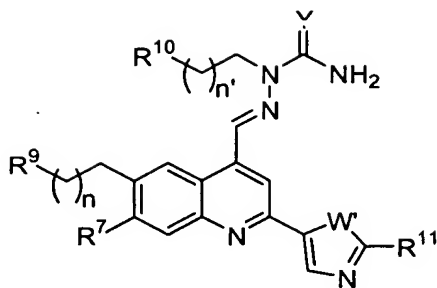
23. A compound of claim 22, wherein Y is S.

- 1 24. A compound of claim 22, wherein Z is  $\text{NR}^2\text{R}^3$ .
- 1 25. A compound of claim 22, wherein Z is  $\text{NH}_2$ .
- 1 26. A compound of claim 22, wherein  $\text{R}^1$  is  $(\text{C}_1\text{-C}_6)\text{alkyl}$ ,  $(\text{C}_1\text{-C}_6)\text{heteroalkyl}$  or  $(\text{C}_3\text{-C}_{10})\text{cycloheteroalkyl-alkyl}$ .
- 2
- 1 27. A compound of claim 22, wherein B is a five-membered aromatic
- 2 ring system containing 1-2 nitrogen atoms and 0-1 sulfur atoms.
- 1 28. A compound of claim 27, wherein B is unsubstituted or substituted
- 2 by  $(\text{C}_1\text{-C}_3)\text{alkyl}$ ,  $\text{CF}_3$ , cyano, or halogen.
- 1 29. A compound of claim 22, wherein Z is  $\text{NH}_2$ ;  $\text{R}^6$  is selected from the
- 2 group consisting of H, halogen,  $\text{CF}_3$ ,  $\text{CF}_3\text{O}$ ,  $(\text{C}_1\text{-C}_4)\text{alkyl}$ ,  $(\text{C}_2\text{-C}_4)\text{alkenyl}$ ,  $(\text{C}_1\text{-C}_4)\text{heteroalkyl}$ ,  $(\text{C}_3\text{-C}_{10})\text{cycloheteroalkyl-alkyl}$  and cyano, wherein the alkyl, alkenyl and
- 3 heteroalkyl groups optionally bear additional substituents selected from cyano,
- 4 carboxamido,  $(\text{C}_1\text{-C}_3)\text{alkylsulfonyl}$  or  $(\text{C}_1\text{-C}_3)\text{alkoxy}$ ; and  $\text{R}^7$  is selected from the group
- 5 consisting of H, halogen,  $\text{CF}_3$ ,  $\text{CF}_3\text{O}$ ,  $(\text{C}_1\text{-C}_4)\text{alkyl}$ ,  $(\text{C}_2\text{-C}_4)\text{alkenyl}$ ,  $(\text{C}_2\text{-C}_4)\text{alkynyl}$ ,  $(\text{C}_1\text{-C}_4)\text{heteroalkyl}$  and cyano.
- 6
- 7
- 1 30. A compound of claim 29, wherein  $\text{R}^6$  is selected from the group
- 2 consisting of  $\text{CH}_2(\text{CH}_2)_m\text{CN}$ ,  $\text{CH}_2(\text{CH}_2)_n\text{SO}_2\text{CH}_3$  and  $\text{CH}_2(\text{CH}_2)_n\text{OCH}_3$ , wherein the
- 3 subscript n is an integer from 0 to 2.

- 1 31. A compound of claim 29, wherein  $\text{R}^6$  is



- 1 32. A compound of claim 29, wherein  $\text{R}^7$  is selected from H, halogen,
- 2  $\text{CF}_3$  and  $(\text{C}_1\text{-C}_4)\text{alkyl}$ .
- 1 33. A compound of claim 29, wherein  $\text{R}^7$  is methyl.
- 1 34. A compound of claim 1, having the formula:



wherein Y is O, S or N-CN; W' is N(CH<sub>3</sub>), N(CF<sub>3</sub>), N(CH<sub>2</sub>CH<sub>3</sub>), O or S; the subscripts n and n' are independently integers from 0 to 3; R<sup>7</sup> is H, halogen, CF<sub>3</sub>, CF<sub>3</sub>O, (C<sub>1</sub>-C<sub>4</sub>)alkyl, (C<sub>2</sub>-C<sub>4</sub>)alkenyl, (C<sub>2</sub>-C<sub>4</sub>)alkynyl, (C<sub>1</sub>-C<sub>4</sub>)heteroalkyl or cyano; R<sup>9</sup> is CN, CONH<sub>2</sub>, CO-NH-(C<sub>1</sub>-C<sub>6</sub>)alkyl, CO-N[(C<sub>1</sub>-C<sub>6</sub>)alkyl]<sub>2</sub>, CO-NH-(C<sub>1</sub>-C<sub>6</sub>)heteroalkyl, CO-N[(C<sub>1</sub>-C<sub>6</sub>)heteroalkyl]<sub>2</sub>, S(O)<sub>n''</sub>-(C<sub>1</sub>-C<sub>6</sub>)alkyl, S(O)<sub>n''</sub>-(C<sub>1</sub>-C<sub>6</sub>)heteroalkyl, heteroaryl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy or (C<sub>3</sub>-C<sub>6</sub>)cycloheteroalkyl, wherein each n'' is independently an integer of 0 to 2; R<sup>10</sup> is NH<sub>2</sub>, NH-(C<sub>1</sub>-C<sub>6</sub>)alkyl, N[(C<sub>1</sub>-C<sub>6</sub>)alkyl]<sub>2</sub>, NH-(C<sub>1</sub>-C<sub>6</sub>)heteroalkyl, N[(C<sub>1</sub>-C<sub>6</sub>)heteroalkyl]<sub>2</sub>, (C<sub>1</sub>-C<sub>6</sub>)heteroalkyl, S(O)<sub>n''</sub>-(C<sub>1</sub>-C<sub>6</sub>)alkyl, S(O)<sub>n''</sub>-(C<sub>1</sub>-C<sub>6</sub>)heteroalkyl, aryl, heteroaryl, O-(C<sub>1</sub>-C<sub>6</sub>)alkyl, O-(C<sub>1</sub>-C<sub>6</sub>)heteroalkyl or (C<sub>3</sub>-C<sub>8</sub>)cycloheteroalkyl; and R<sup>11</sup> is H, CF<sub>3</sub>, NH<sub>2</sub>, NH-(C<sub>1</sub>-C<sub>6</sub>)alkyl, N[(C<sub>1</sub>-C<sub>6</sub>)alkyl]<sub>2</sub>, halogen or (C<sub>1</sub>-C<sub>3</sub>)alkyl.

**35.** A compound of claim 34, wherein Y is O or S; W' is N-CH<sub>3</sub>; n is 2; n' is 1-3; R<sup>9</sup> is cyano, CONH<sub>2</sub>, SO<sub>2</sub>-(C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy or (C<sub>3</sub>-C<sub>6</sub>)cycloheteroalkyl; R<sup>10</sup> is NH-(C<sub>1</sub>-C<sub>6</sub>)alkyl, N[(C<sub>1</sub>-C<sub>6</sub>)alkyl]<sub>2</sub>, NH-(C<sub>1</sub>-C<sub>6</sub>)heteroalkyl, N[(C<sub>1</sub>-C<sub>6</sub>)heteroalkyl]<sub>2</sub>, O-(C<sub>1</sub>-C<sub>6</sub>)alkyl, O-(C<sub>1</sub>-C<sub>6</sub>)heteroalkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy or (C<sub>3</sub>-C<sub>8</sub>)cycloheteroalkyl; and R<sup>11</sup> is H.

**36.** A compound of claim 22, wherein B contains a nitrogen atom at a position two atoms away from the atom attaching B to the remainder of the molecule.

**37.** A compound of claim 22, wherein B contains a nitrogen atom at the point of attachment of B to the remainder of the molecule.

**38.** A compound of claim 22, wherein B is selected from the group consisting of substituted or unsubstituted imidazolyl, substituted or unsubstituted thiazolyl and substituted or unsubstituted triazolyl.

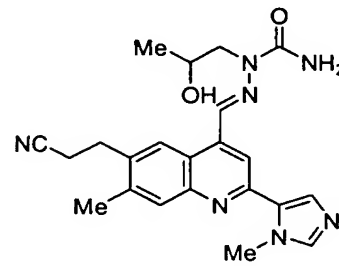
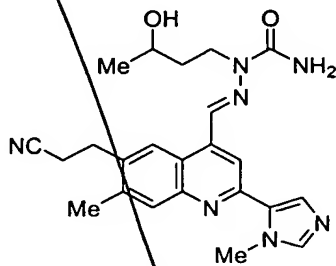
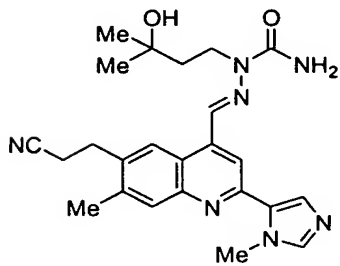
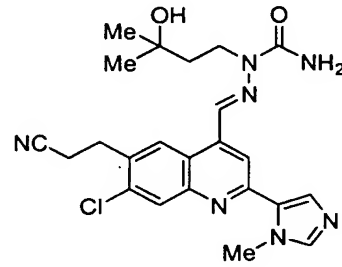
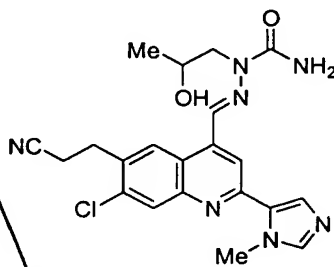
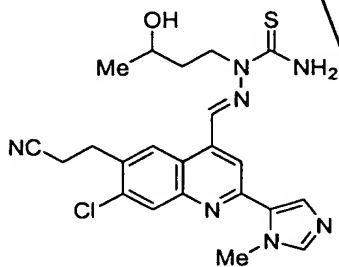
**39.** A compound of claim 22, wherein B is selected from the group consisting of 1-methylimidazol-5-yl, 1-(trifluoromethyl)imidazol-5-yl, 5-methylimidazol-

3 1-yl, 5-(trifluoromethyl)imidazol-1-yl, thiazol-5-yl, imidazol-1-yl, 1-methyl-1,3,4-  
4 triazolyl, and 4-methyl-1,2,4-triazol-3-yl.

1 40. A compound of claim 1, wherein Y is S; Z is NH<sub>2</sub> and R<sup>1</sup> is (C<sub>1</sub>-  
2 C<sub>6</sub>)alkyl.

1 41. A compound of claim 40, wherein R<sup>1</sup> is methyl.

1 42. A compound of claim 1, wherein said compound is selected from the  
2 group consisting of:



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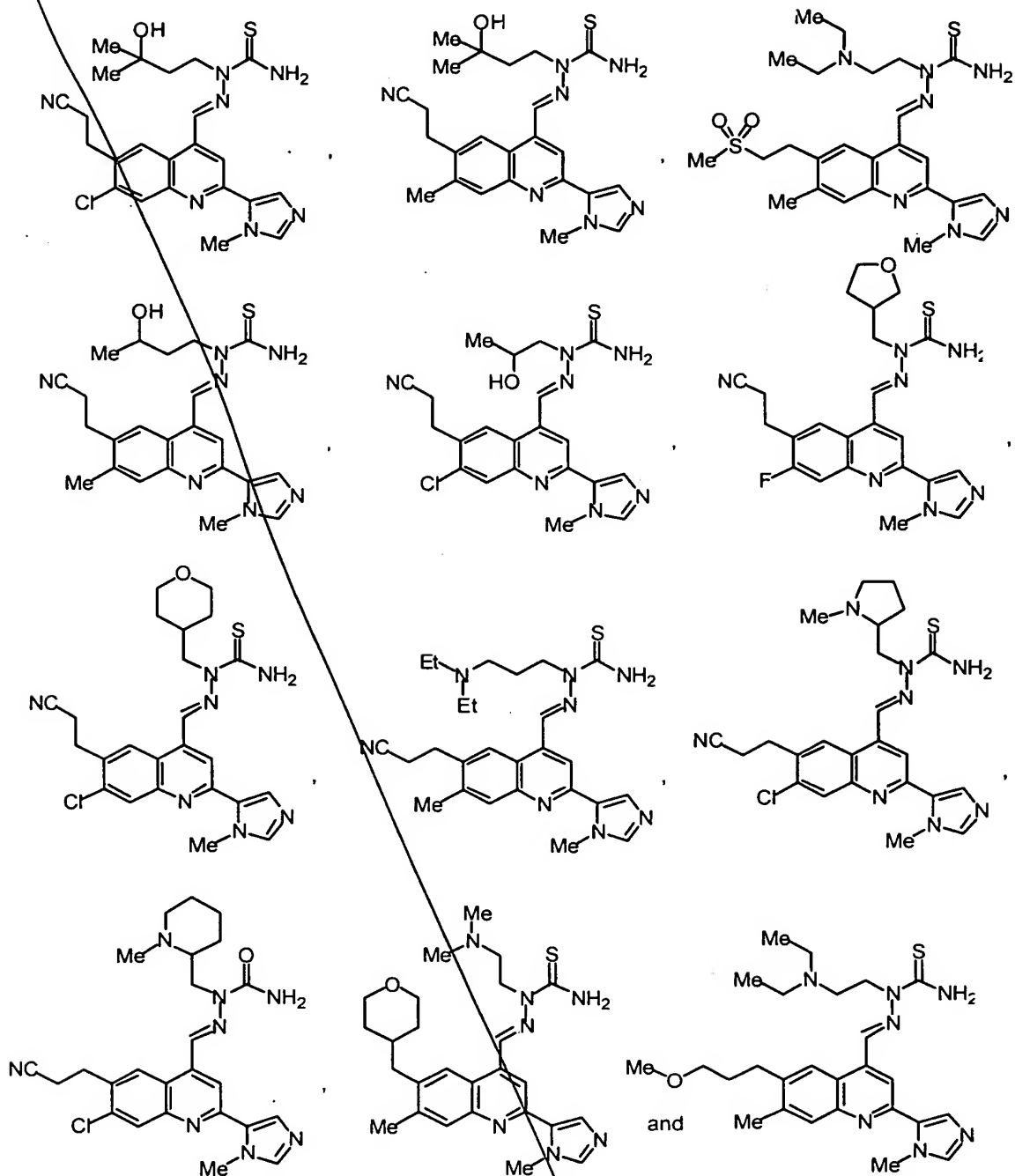
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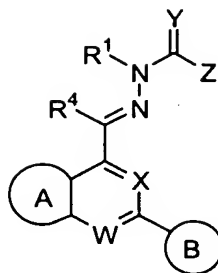
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43. A composition comprising a pharmaceutically acceptable excipient and a compound having the formula:





wherein

W and X are independently selected from the group consisting of N and CH;

Y is selected from the group consisting of O, S and N(R);

wherein R is selected from the group consisting of H, CN, NO<sub>2</sub>, (C<sub>1</sub>-C<sub>10</sub>)alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>4</sub>-C<sub>10</sub>)cycloalkyl-alkyl, (C<sub>3</sub>-C<sub>10</sub>)alkenyl and (C<sub>2</sub>-C<sub>10</sub>)alkynyl;

Z is selected from the group consisting of H, (C<sub>1</sub>-C<sub>10</sub>)alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>4</sub>-C<sub>10</sub>)cycloalkyl-alkyl, (C<sub>2</sub>-C<sub>10</sub>)alkenyl, (C<sub>2</sub>-C<sub>10</sub>)alkynyl and NR<sup>2</sup>R<sup>3</sup>;

R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> are independently selected from the group consisting of H, (C<sub>1</sub>-C<sub>10</sub>)alkyl, (C<sub>3</sub>-C<sub>10</sub>)alkenyl, (C<sub>2</sub>-C<sub>10</sub>)alkynyl, (C<sub>2</sub>-C<sub>10</sub>)heteroalkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>4</sub>-C<sub>10</sub>)cycloalkyl-alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloheteroalkyl-alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloheteroalkyl, aryl, aryl(C<sub>1</sub>-C<sub>4</sub>)alkyl, aryl(C<sub>2</sub>-C<sub>4</sub>)heteroalkyl, heteroaryl(C<sub>2</sub>-C<sub>4</sub>)alkyl, heteroaryl(C<sub>2</sub>-C<sub>4</sub>)heteroalkyl and perfluoro(C<sub>1</sub>-C<sub>6</sub>)alkyl; and wherein when Z is NR<sup>2</sup>R<sup>3</sup>, R<sup>2</sup> and R<sup>3</sup> can be combined to form a 5- to 7-membered ring; and wherein when Y is N(R), R and R<sup>1</sup> are optionally combined to form a 5- to 7-membered ring;

R<sup>4</sup> is selected from the group consisting of H, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, (C<sub>4</sub>-C<sub>7</sub>)cycloalkyl-alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl and (C<sub>2</sub>-C<sub>6</sub>)alkynyl;

A is a substituted or unsubstituted fused carbocyclic or heterocyclic ring system, said ring system being mono- or bicyclic wherein said mono- or bicyclic rings are selected from the group consisting of five- and six-membered rings that are aromatic or partially or completely saturated; and

B is a substituted or unsubstituted five- or six-membered ring which is aromatic or partially or completely saturated, containing at least one nitrogen atom, and from 0 to 3 additional heteroatoms, wherein the B ring substituents are selected from the group consisting of halogen, CF<sub>3</sub>, CF<sub>3</sub>O, (C<sub>1</sub>-C<sub>6</sub>)alkyl, perfluoro(C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, (C<sub>1</sub>-C<sub>6</sub>)heteroalkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>1</sub>-C<sub>6</sub>)thioalkoxy, amino, (C<sub>1</sub>-C<sub>6</sub>)alkylamino, di(C<sub>1</sub>-

Sub  
A'

32 C<sub>6</sub>)alkylamino, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>4</sub>-C<sub>10</sub>)cycloalkyl-alkyl, (C<sub>3</sub>-  
33 C<sub>10</sub>)cycloheteroalkyl, cyano, nitro, sulfonamido, (C<sub>1</sub>-C<sub>6</sub>)acyl, (C<sub>1</sub>-  
34 C<sub>6</sub>)acylamino, (C<sub>2</sub>-C<sub>6</sub>)alkoxycarbonyl, (C<sub>2</sub>-C<sub>6</sub>)alkoxycarbonyl(C<sub>1</sub>-  
35 C<sub>6</sub>)alkyl, carboxamido and (C<sub>1</sub>-C<sub>6</sub>)heteroalkoxy.

1 44. A composition in accordance with claim 43, wherein W is N and X  
2 is CH.

1 45. A composition in accordance with claim 43, wherein W is N and X  
2 is N.

1 46. A composition in accordance with claim 43, wherein W is CH and  
2 X is N.

1 47. A composition in accordance with claim 43, wherein W is CH and  
2 X is CH.

1 48. A composition in accordance with claim 43, wherein Y is selected  
2 from the group consisting of O and S.

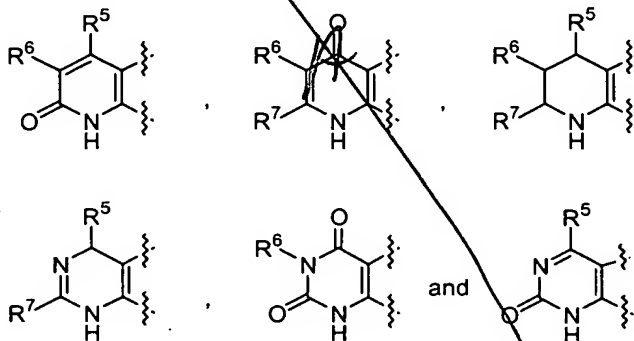
1 49. A composition in accordance claim 43, wherein Y is O.

1 50. A composition in accordance claim 43, wherein Y is S.

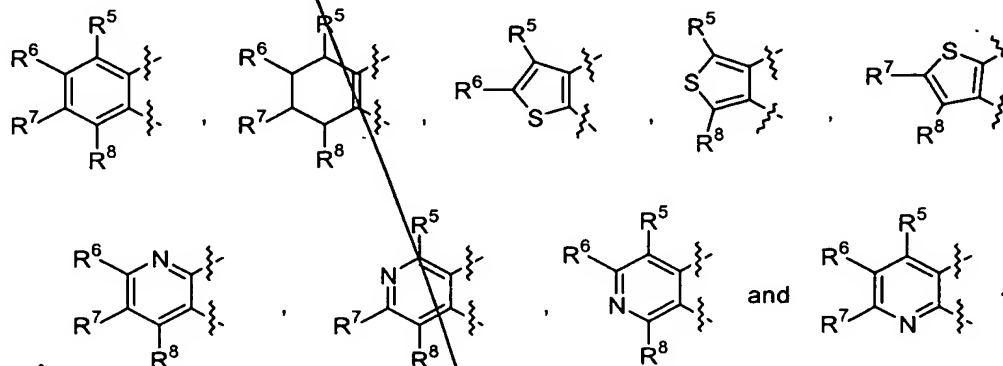
1 51. A composition in accordance claim 43, wherein Z is NR<sup>2</sup>R<sup>3</sup>.

1 52. A composition in accordance with claim 48, wherein R<sup>4</sup> is H.

1 53. A composition in accordance with claim 43, wherein A is selected  
2 from the group consisting of:



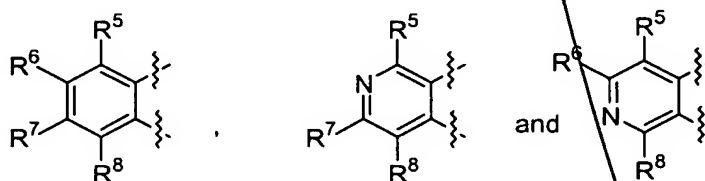
1                    **54.**    A composition in accordance with claim 43, wherein A is selected  
2    from the group consisting of:



wherein

$R^5$ ,  $R^6$ ,  $R^7$  and  $R^8$  are independently selected from the group consisting of H,  
halogen,  $CF_3$ ,  $(C_1-C_6)$ alkyl,  $(C_2-C_6)$ alkenyl,  $(C_2-C_6)$ alkynyl,  $(C_1-$   
 $C_6)$ heteroalkyl,  $(C_1-C_6)$ alkoxy,  $(C_1-C_6)$ thioalkoxy, amino,  $(C_1-$   
 $C_6)$ alkylamino, di $(C_1-C_6)$ alkylamino,  $(C_3-C_{10})$ cycloalkyl,  $(C_4-$   
 $C_{10})$ cycloalkyl-alkyl,  $(C_3-C_{10})$ cycloheteroalkyl,  $(C_3-C_{10})$ cycloheteroalkyl-  
alkyl, cyano, nitro,  $(C_1-C_6)$ acyl,  $(C_1-C_6)$ acylamino,  $(C_2-C_6)$ alkoxycarbonyl,  
 $(C_3-C_6)$ alkoxycarbonylalkyl,  $CONH_2$ ,  $CO-NH-(C_1-C_6)$ alkyl,  $CO-N[(C_1-$   
 $C_6)$ alkyl] $_2$ ,  $SO_2NH_2$ ,  $SO_2NH-(C_1-C_6)$ alkyl,  $SO_2N-[(C_1-C_6)$ alkyl] $_2$  and  $(C_1-$   
 $C_6)$ heteroalkoxy; or two adjacent R groups can be linked together to form  
a new 5- or 6-membered carbocyclic or heterocyclic ring.

1                    **55.**    A composition in accordance with claim 43, wherein W is N; X is  
2    CH; Y is O or S; and A is selected from the group consisting of:



1                    **56.**    A composition in accordance with claim 43, wherein B contains a  
2    nitrogen atom at a position two atoms away from the atom attaching B to the remainder of  
3    the molecule.

1 57. A composition in accordance with claim 43, wherein B contains a  
2 nitrogen atom at the point of attachment of B to the remainder of the molecule.

1 58. A composition in accordance with claim 43, wherein B is selected  
2 from the group consisting of 1-methylimidazol-5-yl, 1-(trifluoromethyl)imidazol-5-yl, 5-  
3 methylimidazol-1-yl, 5-(trifluoromethyl)imidazol-1-yl, thiazol-5-yl, imidazol-1-yl, 1-  
4 methyl-1,3,4-triazolyl, and 4-methyl-1,2,4-triazol-3-yl.

1 59. A composition in accordance with claim 43, wherein B is selected  
2 from the group consisting of substituted or unsubstituted imidazolyl, substituted or  
3 unsubstituted thiazolyl and substituted or unsubstituted triazolyl.

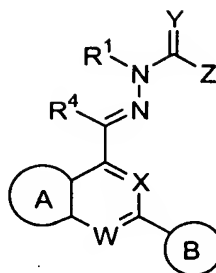
1 60. A composition in accordance with claim 55, wherein B contains a  
2 nitrogen atom at a position two atoms away from the atom attaching B to the remainder of  
3 the molecule.

1 61. A composition in accordance with claim 55, wherein B contains a  
2 nitrogen atom at the point of attachment of B to the remainder of the molecule.

1 62. A composition in accordance with claim 55, wherein B is selected  
2 from the group consisting of 1-methylimidazol-5-yl, 1-(trifluoromethyl)imidazol-5-yl, 5-  
3 methylimidazol-1-yl, 5-(trifluoromethyl)imidazol-1-yl, thiazol-5-yl, imidazol-1-yl, 1-  
4 methyl-1,3,4-triazolyl, and 4-methyl-1,2,4-triazol-3-yl.

1 63. A composition in accordance with claim 55, wherein B is selected  
2 from the group consisting of substituted or unsubstituted imidazolyl, substituted or  
3 unsubstituted thiazolyl and substituted or unsubstituted triazolyl.

1 64. A method for treating an inflammatory, metabolic or malignant  
2 condition, said method comprising administering to a subject in need of such treatment,  
3 an effective amount of a compound having the formula:



wherein

W and X are independently selected from the group consisting of N and CH;

Y is selected from the group consisting of O, S and N(R);

wherein R is selected from the group consisting of H, CN, NO<sub>2</sub>, (C<sub>1</sub>-C<sub>10</sub>)alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>4</sub>-C<sub>10</sub>)cycloalkyl-alkyl, (C<sub>3</sub>-C<sub>10</sub>)alkenyl and (C<sub>2</sub>-C<sub>10</sub>)alkynyl;

Z is selected from the group consisting of H, (C<sub>1</sub>-C<sub>10</sub>)alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>4</sub>-C<sub>10</sub>)cycloalkyl-alkyl, (C<sub>2</sub>-C<sub>10</sub>)alkenyl, (C<sub>2</sub>-C<sub>10</sub>)alkynyl and NR<sup>2</sup>R<sup>3</sup>;

R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> are independently selected from the group consisting of H, (C<sub>1</sub>-C<sub>10</sub>)alkyl, (C<sub>3</sub>-C<sub>10</sub>)alkenyl, (C<sub>2</sub>-C<sub>10</sub>)alkynyl, (C<sub>2</sub>-C<sub>10</sub>)heteroalkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>4</sub>-C<sub>10</sub>)cycloalkyl-alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloheteroalkyl-alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloheteroalkyl, aryl, aryl(C<sub>1</sub>-C<sub>4</sub>)alkyl, aryl(C<sub>2</sub>-C<sub>4</sub>)heteroalkyl, heteroaryl(C<sub>2</sub>-C<sub>4</sub>)alkyl, heteroaryl(C<sub>2</sub>-C<sub>4</sub>)heteroalkyl and perfluoro(C<sub>1</sub>-C<sub>6</sub>)alkyl; and wherein when Z is NR<sup>2</sup>R<sup>3</sup>, R<sup>2</sup> and R<sup>3</sup> can be combined to form a 5- to 7-membered ring; and wherein when Y is N(R), R and R<sup>1</sup> are optionally combined to form a 5- to 7-membered ring;

R<sup>4</sup> is selected from the group consisting of H, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, (C<sub>4</sub>-C<sub>7</sub>)cycloalkyl-alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl and (C<sub>2</sub>-C<sub>6</sub>)alkynyl;

A is a substituted or unsubstituted fused carbocyclic or heterocyclic ring system, said ring system being mono- or bicyclic wherein said mono- or bicyclic rings are selected from the group consisting of five- and six-membered rings that are aromatic or partially or completely saturated; and

B is a substituted or unsubstituted five- or six-membered ring which is aromatic or partially or completely saturated, containing at least one nitrogen atom, and from 0 to 3 additional heteroatoms, wherein the B ring substituents are selected from the group consisting of halogen, CF<sub>3</sub>, CF<sub>3</sub>O, (C<sub>1</sub>-C<sub>6</sub>)alkyl, perfluoro(C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, (C<sub>1</sub>-C<sub>6</sub>)heteroalkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>1</sub>-C<sub>6</sub>)thioalkoxy, amino, (C<sub>1</sub>-C<sub>6</sub>)alkylamino, di(C<sub>1</sub>-

Sub  
A'

33 C<sub>6</sub>alkylamino, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>4</sub>-C<sub>10</sub>)cycloalkyl-alkyl, (C<sub>3</sub>-  
34 C<sub>10</sub>)cycloheteroalkyl, cyano, nitro, sulfonamido, (C<sub>1</sub>-C<sub>6</sub>)acyl, (C<sub>1</sub>-  
35 C<sub>6</sub>)acylamino, (C<sub>2</sub>-C<sub>6</sub>)alkoxycarbonyl, (C<sub>2</sub>-C<sub>6</sub>)alkoxycarbonyl(C<sub>1</sub>-  
36 C<sub>6</sub>)alkyl, carboxamido and (C<sub>1</sub>-C<sub>6</sub>)heteroalkoxy.

1 65. A method in accordance with claim 64, wherein W is N and X is  
2 CH.

1 66. A method in accordance with claim 64, wherein W is N and X is N.

1 67. A method in accordance with claim 64, wherein W is CH and X is  
2 N.

1 68. A method in accordance with claim 64, wherein W is CH and X is  
2 CH.

1 69. A method in accordance with claim 65, wherein Y is selected from  
2 the group consisting of O and S.

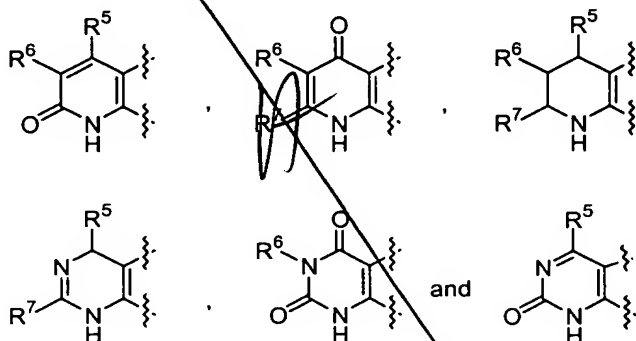
1 70. A method in accordance with claim 65, wherein Y is O.

1 71. A method in accordance with claim 65, wherein Y is S.

1 72. A method in accordance with claim 65, wherein Z is NR<sup>2</sup>R<sup>3</sup>.

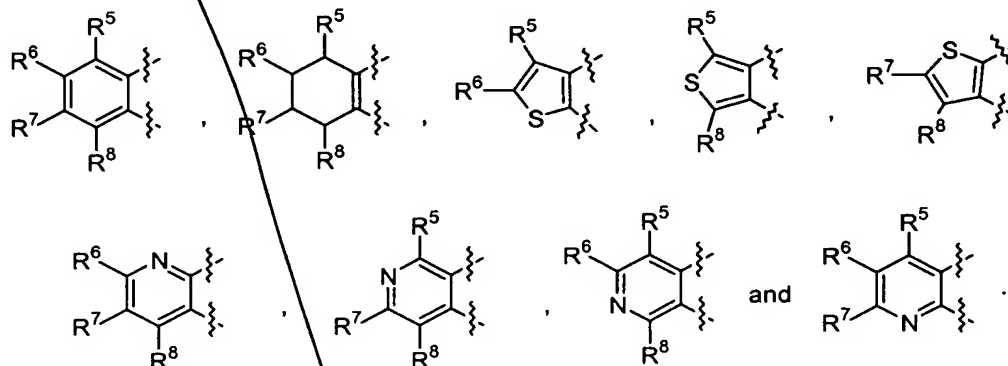
1 73. A method in accordance with claim 69, wherein R<sup>4</sup> is H.

1 74. A method in accordance with claim 64, wherein A is selected from  
2 the group consisting of:



3

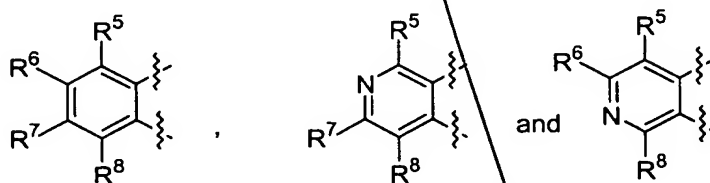
1 75. A method in accordance with claim 64, wherein A is selected from  
2 the group consisting of:



3  
4 wherein

5 R<sup>5</sup>, R<sup>6</sup>, R<sup>7</sup> and R<sup>8</sup> are independently selected from the group consisting of H,  
6 halogen, CF<sub>3</sub>, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, (C<sub>1</sub>-  
7 C<sub>6</sub>)heteroalkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>1</sub>-C<sub>6</sub>)thioalkoxy, amino, (C<sub>1</sub>-  
8 C<sub>6</sub>)alkylamino, di(C<sub>1</sub>-C<sub>6</sub>)alkylamino, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>4</sub>-  
9 C<sub>10</sub>)cycloalkyl-alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloheteroalkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloheteroalkyl-  
10 alkyl, cyano, nitro, (C<sub>1</sub>-C<sub>6</sub>)acyl, (C<sub>1</sub>-C<sub>6</sub>)acylamino, (C<sub>2</sub>-C<sub>6</sub>)alkoxycarbonyl,  
11 (C<sub>3</sub>-C<sub>6</sub>)alkoxycarbonylalkyl, CONH<sub>2</sub>, CO-NH-(C<sub>1</sub>-C<sub>6</sub>)alkyl, CO-N[(C<sub>1</sub>-  
12 C<sub>6</sub>)alkyl]<sub>2</sub>, SO<sub>2</sub>NH<sub>2</sub>, SO<sub>2</sub>NH-(C<sub>1</sub>-C<sub>6</sub>)alkyl, SO<sub>2</sub>N-[(C<sub>1</sub>-C<sub>6</sub>)alkyl]<sub>2</sub> and (C<sub>1</sub>-  
13 C<sub>6</sub>)heteroalkoxy; or two adjacent R groups can be linked together to form  
14 a new 5- or 6-membered carbocyclic or heterocyclic ring.

1 76. A method in accordance with claim 64, wherein W is N; X is CH;  
2 Y is O or S; and A is selected from the group consisting of:



1 77. A method in accordance with claim 64, wherein B contains a  
2 nitrogen atom at a position two atoms away from the atom attaching B to the remainder of  
3 the molecule.

1 78. A method in accordance with claim 64, wherein B contains a  
2 nitrogen atom at the point of attachment of B to the remainder of the molecule.

1 79. A method in accordance with claim 64, wherein B is selected from  
2 the group consisting of 1-methylimidazol-5-yl, 1-(trifluoromethyl)imidazol-5-yl, 5-  
3 methylimidazol-1-yl, 5-(trifluoromethyl)imidazol-1-yl, thiazol-5-yl, imidazol-1-yl, 1-  
4 methyl-1,3,4-triazolyl, and 4-methyl-1,2,4-triazol-3-yl.

1 80. A method in accordance with claim 64, wherein B is selected from  
2 the group consisting of substituted or unsubstituted imidazolyl, substituted or  
3 unsubstituted thiazolyl and substituted or unsubstituted triazolyl.

1 81. A method in accordance with claim 76, wherein B contains a  
2 nitrogen atom at a position two atoms away from the atom attaching B to the remainder of  
3 the molecule.

1 82. A method in accordance with claim 76, wherein B contains a  
2 nitrogen atom at the point of attachment of B to the remainder of the molecule.

1 83. A method in accordance with claim 76, wherein B is selected from  
2 the group consisting of 1-methylimidazol-5-yl, 1-(trifluoromethyl)imidazol-5-yl, 5-  
3 methylimidazol-1-yl, 5-(trifluoromethyl)imidazol-1-yl, thiazol-5-yl, imidazol-1-yl, 1-  
4 methyl-1,3,4-triazolyl, and 4-methyl-1,2,4-triazol-3-yl.

1 84. A method in accordance with claim 76, wherein B is selected from  
2 the group consisting of substituted or unsubstituted imidazolyl, substituted or  
3 unsubstituted thiazolyl and substituted or unsubstituted triazolyl.

1 85. A method in accordance with claim 64, wherein said compound is  
2 administered orally.

1 86. A method in accordance with claim 64, wherein said compound is  
2 administered topically.

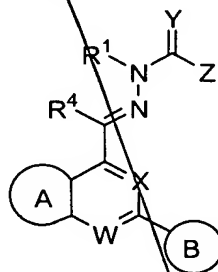
1 87. A method in accordance with claim 64, wherein said compound is  
2 administered intravenously or intramuscularly.

1 88. A method in accordance with claim 64, wherein said compound is  
2 administered in combination with a second therapeutic agent, said second therapeutic  
3 agent being a member selected from the group consisting of prednisone, dexamethasone,  
4 beclomethasone, methylprednisone, betamethasone, hydrocortisone, methotrexate,  
5 cyclosporin, rapamycin, tacrolimus, antihistamine drugs, TNF antibodies, IL-1 antibodies,  
6 soluble TNF receptors, soluble IL-1 receptors, TNF or IL-1 receptor antagonists, non-  
7 steroidal antiinflammatory agents, COX-2 inhibitors, antidiabetic agents, and anticancer  
8 agents.

1 89. A method in accordance with claim 88, wherein said administering  
2 is sequential.

1 90. A method in accordance with claim 64, wherein said inflammatory,  
2 metabolic or malignant condition is selected from the group consisting of rheumatoid  
3 arthritis, inflammatory bowel disease, psoriasis, cancer, diabetes and septic shock.

1 91. A method for treating a condition or disorder mediated by IKK,  
2 comprising  
3 administering to a subject in need thereof a therapeutically effective  
4 amount of a compound having the formula:



5  
6 wherein

7 W and X are independently selected from the group consisting of N and CH;

8 Y is selected from the group consisting of O, S and N(R);

9 wherein R is selected from the group consisting of H, CN, NO<sub>2</sub>, (C<sub>1</sub>-  
10 C<sub>10</sub>)alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>4</sub>-C<sub>10</sub>)cycloalkyl-alkyl, (C<sub>3</sub>-  
11 C<sub>10</sub>)alkenyl and (C<sub>2</sub>-C<sub>10</sub>)alkynyl;

12 Z is selected from the group consisting of H, (C<sub>1</sub>-C<sub>10</sub>)alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl,  
13 (C<sub>4</sub>-C<sub>10</sub>)cycloalkyl-alkyl, (C<sub>2</sub>-C<sub>10</sub>)alkenyl, (C<sub>2</sub>-C<sub>10</sub>)alkynyl and NR<sup>2</sup>R<sup>3</sup>;

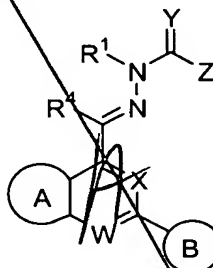
$R^1, R^2$  and  $R^3$  are independently selected from the group consisting of H, (C<sub>1</sub>-C<sub>10</sub>)alkyl, (C<sub>3</sub>-C<sub>10</sub>)alkenyl, (C<sub>2</sub>-C<sub>10</sub>)alkynyl, (C<sub>1</sub>-C<sub>10</sub>)heteroalkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>4</sub>-C<sub>10</sub>)cycloalkyl-alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloheteroalkyl-alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloheteroalkyl, aryl, aryl(C<sub>1</sub>-C<sub>4</sub>)alkyl, aryl(C<sub>1</sub>-C<sub>4</sub>)heteroalkyl, heteroaryl(C<sub>1</sub>-C<sub>4</sub>)alkyl, heteroaryl(C<sub>1</sub>-C<sub>4</sub>)heteroalkyl and perfluoro(C<sub>1</sub>-C<sub>6</sub>)alkyl; and wherein when Z is  $NR^2R^3$ ,  $R^2$  and  $R^3$  can be combined to form a 5- to 7-membered heterocyclyl ring;

$R^4$  is selected from the group consisting of H, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, (C<sub>4</sub>-C<sub>7</sub>)cycloalkyl-alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl and (C<sub>2</sub>-C<sub>6</sub>)alkynyl;

A is a substituted or unsubstituted fused carbocyclic or heterocyclic ring system, said ring system being mono- or bicyclic wherein said mono- or bicyclic rings are selected from the group consisting of five- and six-membered rings that are aromatic or partially or completely saturated; and

B is a substituted or unsubstituted five- or six-membered ring which is aromatic or partially or completely saturated, containing at least one nitrogen atom, and from 0 to 3 additional heteroatoms, wherein the ring substituents are selected from the group consisting of halogen, CF<sub>3</sub>, CF<sub>3</sub>O, (C<sub>1</sub>-C<sub>6</sub>)alkyl, perfluoro(C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, (C<sub>1</sub>-C<sub>6</sub>)heteroalkyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>1</sub>-C<sub>6</sub>)thioalkoxy, amino, (C<sub>1</sub>-C<sub>6</sub>)alkylamino, di(C<sub>1</sub>-C<sub>6</sub>)alkylamino, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>4</sub>-C<sub>10</sub>)cycloalkyl-alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloheteroalkyl, cyano, nitro, sulfonamido, (C<sub>1</sub>-C<sub>6</sub>)acyl, (C<sub>1</sub>-C<sub>6</sub>)acylamino, (C<sub>1</sub>-C<sub>6</sub>)alkoxycarbonyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxycarbonyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, carboxamido and (C<sub>1</sub>-C<sub>6</sub>)heteroalkoxy.

92. A method for modulating IKK, comprising contacting a cell with a compound having the formula:



wherein

W and X are independently selected from the group consisting of N and CH;

6 Y is selected from the group consisting of O, S and N(R);

7 wherein R is selected from the group consisting of H, CN, NO<sub>2</sub>, (C<sub>1</sub>-  
8 C<sub>10</sub>)alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>4</sub>-C<sub>10</sub>)cycloalkyl-alkyl, (C<sub>3</sub>-  
9 C<sub>10</sub>)alkenyl and (C<sub>2</sub>-C<sub>10</sub>)alkynyl;

10 Z is selected from the group consisting of H, (C<sub>1</sub>-C<sub>10</sub>)alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl,  
11 (C<sub>4</sub>-C<sub>10</sub>)cycloalkyl-alkyl, (C<sub>2</sub>-C<sub>10</sub>)alkenyl, (C<sub>2</sub>-C<sub>10</sub>)alkynyl and NR<sup>2</sup>R<sup>3</sup>;

12 R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> are independently selected from the group consisting of H, (C<sub>1</sub>-  
13 C<sub>10</sub>)alkyl, (C<sub>3</sub>-C<sub>10</sub>)alkenyl, (C<sub>2</sub>-C<sub>10</sub>)alkynyl, (C<sub>1</sub>-C<sub>10</sub>)heteroalkyl, (C<sub>3</sub>-  
14 C<sub>10</sub>)cycloalkyl, (C<sub>4</sub>-C<sub>10</sub>)cycloalkyl-alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloheteroalkyl-alkyl,  
15 (C<sub>3</sub>-C<sub>10</sub>)cycloheteroalkyl, aryl, aryl(C<sub>1</sub>-C<sub>4</sub>)alkyl, aryl(C<sub>1</sub>-C<sub>4</sub>)heteroalkyl,  
16 heteroaryl(C<sub>1</sub>-C<sub>4</sub>)alkyl, heteroaryl(C<sub>1</sub>-C<sub>4</sub>)heteroalkyl and perfluoro(C<sub>1</sub>-  
17 C<sub>6</sub>)alkyl; and wherein when Z is NR<sup>2</sup>R<sup>3</sup>, R<sup>2</sup> and R<sup>3</sup> can be combined to  
18 form a 5- to 7-membered heterocyclyl ring;

19 R<sup>4</sup> is selected from the group consisting of H, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl,  
20 (C<sub>4</sub>-C<sub>7</sub>)cycloalkyl-alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl and (C<sub>2</sub>-C<sub>6</sub>)alkynyl;

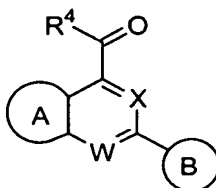
21 A is a substituted or unsubstituted fused carbocyclic or heterocyclic ring system,  
22 said ring system being mono- or bicyclic wherein said mono- or bicyclic  
23 rings are selected from the group consisting of five- and six-membered  
24 rings that are aromatic or partially or completely saturated; and

25 B is a substituted or unsubstituted five- or six-membered ring which is aromatic or  
26 partially or completely saturated, containing at least one nitrogen atom,  
27 and from 0 to 3 additional heteroatoms, wherein the B ring substituents are  
28 selected from the group consisting of halogen, CF<sub>3</sub>, CF<sub>3</sub>O, (C<sub>1</sub>-C<sub>6</sub>)alkyl,  
29 perfluoro(C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, (C<sub>1</sub>-C<sub>6</sub>)heteroalkyl,  
30 (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>1</sub>-C<sub>6</sub>)thioalkoxy, amino, (C<sub>1</sub>-C<sub>6</sub>)alkylamino, di(C<sub>1</sub>-  
31 C<sub>6</sub>)alkylamino, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>4</sub>-C<sub>10</sub>)cycloalkyl-alkyl, (C<sub>3</sub>-  
32 C<sub>10</sub>)cycloheteroalkyl, cyano, nitro, sulfonamido, (C<sub>1</sub>-C<sub>6</sub>)acyl, (C<sub>1</sub>-  
33 C<sub>6</sub>)acylamino, (C<sub>1</sub>-C<sub>6</sub>)alkoxycarbonyl, (C<sub>1</sub>-C<sub>6</sub>)alkoxycarbonyl(C<sub>1</sub>-  
34 C<sub>6</sub>)alkyl, carboxamido and (C<sub>1</sub>-C<sub>6</sub>)heteroalkoxy.

1 93. The method of Claim 92, wherein said compound is an IKK  
2 inhibitor.

3 94. The method of Claim 92, wherein said compound is an IKK  
4 activator.

1 95. A method for the preparation of antiinflammation agents  
2 comprising contacting a precursor compound having the formula:



3  
4 wherein

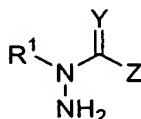
5 W and X are independently selected from the group consisting of N and CH;

6 R<sup>4</sup> is selected from the group consisting of H, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl,  
7 (C<sub>4</sub>-C<sub>7</sub>)cycloalkyl-alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl and (C<sub>2</sub>-C<sub>6</sub>)alkynyl;

8 A is a substituted or unsubstituted fused carbocyclic or heterocyclic ring system,  
9 said ring system being mono- or bicyclic wherein said mono- or bicyclic  
10 rings are selected from the group consisting of five- and six-membered  
11 rings that are aromatic or partially or completely saturated; and

12 B is a substituted or unsubstituted five- or six-membered ring which is aromatic or  
13 partially or completely saturated, containing at least one nitrogen atom,  
14 and from 0 to 3 additional heteroatoms, wherein the B ring substituents are  
15 selected from the group consisting of halogen, CF<sub>3</sub>, CF<sub>3</sub>O, (C<sub>1</sub>-C<sub>6</sub>)alkyl,  
16 perfluoro(C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, (C<sub>1</sub>-C<sub>6</sub>)heteroalkyl,  
17 (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>1</sub>-C<sub>6</sub>)thioalkoxy, amino, (C<sub>1</sub>-C<sub>6</sub>)alkylamino, di(C<sub>1</sub>-  
18 C<sub>6</sub>)alkylamino, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>4</sub>-C<sub>10</sub>)cycloalkyl-alkyl, (C<sub>3</sub>-  
19 C<sub>10</sub>)cycloheteroalkyl, cyano, nitro, sulfonamido, (C<sub>1</sub>-C<sub>6</sub>)acyl, (C<sub>1</sub>-  
20 C<sub>6</sub>)acylamino, (C<sub>2</sub>-C<sub>6</sub>)alkoxycarbonyl, (C<sub>2</sub>-C<sub>6</sub>)alkoxycarbonyl(C<sub>1</sub>-  
21 C<sub>6</sub>)alkyl, carboxamido and (C<sub>1</sub>-C<sub>6</sub>)heteroalkoxy

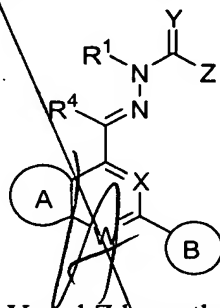
22 with a compound having the formula:



23  
24 wherein

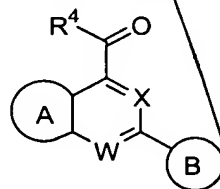
25 Y is selected from the group consisting of O, S and N(R);

26 wherein R is selected from the group consisting of H, CN, NO<sub>2</sub>, (C<sub>1</sub>-  
 27 C<sub>10</sub>)alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>4</sub>-C<sub>10</sub>)cycloalkyl-alkyl, (C<sub>3</sub>-  
 28 C<sub>10</sub>)alkenyl and (C<sub>2</sub>-C<sub>10</sub>)alkynyl;  
 29 Z is selected from the group consisting of H, (C<sub>1</sub>-C<sub>10</sub>)alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl,  
 30 (C<sub>4</sub>-C<sub>10</sub>)cycloalkyl-alkyl, (C<sub>2</sub>-C<sub>10</sub>)alkenyl, (C<sub>2</sub>-C<sub>10</sub>)alkynyl and NR<sup>2</sup>R<sup>3</sup>;  
 31 R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> are independently selected from the group consisting of H, (C<sub>1</sub>-  
 32 C<sub>10</sub>)alkyl, (C<sub>3</sub>-C<sub>10</sub>)alkenyl, (C<sub>2</sub>-C<sub>10</sub>)alkynyl, (C<sub>2</sub>-C<sub>10</sub>)heteroalkyl, (C<sub>3</sub>-  
 33 C<sub>10</sub>)cycloalkyl, (C<sub>4</sub>-C<sub>10</sub>)cycloalkyl-alkyl, (C<sub>3</sub>-C<sub>10</sub>)cycloheteroalkyl-alkyl,  
 34 (C<sub>3</sub>-C<sub>10</sub>)cycloheteroalkyl, aryl, aryl(C<sub>1</sub>-C<sub>4</sub>)alkyl, aryl(C<sub>2</sub>-C<sub>4</sub>)heteroalkyl,  
 35 heteroaryl(C<sub>2</sub>-C<sub>4</sub>)alkyl, heteroaryl(C<sub>2</sub>-C<sub>4</sub>)heteroalkyl and perfluoro(C<sub>1</sub>-  
 36 C<sub>6</sub>)alkyl; and wherein when Z is NR<sup>2</sup>R<sup>3</sup>, R<sup>2</sup> and R<sup>3</sup> can be combined to  
 37 form a 5- to 7-membered ring; and wherein when Y is N(R), R and R<sup>1</sup> are  
 38 optionally combined to form a 5- to 7-membered ring;  
 39 under conditions sufficient to produce compounds having the formula:



40 wherein each of A, B, R<sup>1</sup>, R<sup>4</sup>, W, X, Y and Z have the meanings provided above.  
 41

1 96. A compound having the formula:



2  
 3 wherein

4 W and X are independently selected from the group consisting of N and CH;  
 5 R<sup>4</sup> is selected from the group consisting of H, (C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl,  
 6 (C<sub>4</sub>-C<sub>7</sub>)cycloalkyl-alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl and (C<sub>2</sub>-C<sub>6</sub>)alkynyl;  
 7 A is a substituted or unsubstituted fused carbocyclic or heterocyclic ring system,  
 8 said ring system being mono- or bicyclic wherein said mono- or bicyclic

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9 rings are selected from the group consisting of five- and six-membered  
10 rings that are aromatic or partially or completely saturated; and  
11 B is a substituted or unsubstituted five- or six-membered ring which is aromatic or  
12 partially or completely saturated, containing at least one nitrogen atom,  
13 and from 0 to 3 additional heteroatoms, wherein the B ring substituents are  
14 selected from the group consisting of halogen, CF<sub>3</sub>, CF<sub>3</sub>O, (C<sub>1</sub>-C<sub>6</sub>)alkyl,  
15 perfluoro(C<sub>1</sub>-C<sub>6</sub>)alkyl, (C<sub>2</sub>-C<sub>6</sub>)alkenyl, (C<sub>2</sub>-C<sub>6</sub>)alkynyl, (C<sub>1</sub>-C<sub>6</sub>)heteroalkyl,  
16 (C<sub>1</sub>-C<sub>6</sub>)alkoxy, (C<sub>1</sub>-C<sub>6</sub>)thioalkoxy, amino, (C<sub>1</sub>-C<sub>6</sub>)alkylamino, di(C<sub>1</sub>-  
17 C<sub>6</sub>)alkylamino, (C<sub>3</sub>-C<sub>10</sub>)cycloalkyl, (C<sub>4</sub>-C<sub>10</sub>)cycloalkyl-alkyl, (C<sub>3</sub>-  
18 C<sub>10</sub>)cycloheteroalkyl, cyano, nitro, sulfonamido, (C<sub>1</sub>-C<sub>6</sub>)acyl, (C<sub>1</sub>-  
19 C<sub>6</sub>)acylamino, (C<sub>2</sub>-C<sub>6</sub>)alkoxycarbonyl, (C<sub>2</sub>-C<sub>6</sub>)alkoxycarbonyl(C<sub>1</sub>-  
20 C<sub>6</sub>)alkyl, carboxamido and (C<sub>1</sub>-C<sub>6</sub>)heteroalkoxy.

1 97. A compound of claim 96, wherein R<sup>4</sup> is hydrogen.

1 98. A compound of claim 96, wherein R<sup>4</sup> is hydrogen, Y is O or S, and  
2 Z is NR<sup>2</sup>R<sup>3</sup>.

1 99. A compound of claim 96, wherein R<sup>4</sup> is hydrogen, Y is O or S, Z is  
2 NR<sup>2</sup>R<sup>3</sup>, and B contains a nitrogen atom at a position two atoms away from the atom  
3 attaching B to the remainder of the molecule.

1 100. A compound of claim 96, B contains a nitrogen atom at the point of  
2 attachment of B to the remainder of the molecule.

1 101. A compound of claim 99, wherein B is selected from the group  
2 consisting of 1-methylimidazol-5-yl, 1-(trifluoromethyl)imidazol-5-yl, 5-methylimidazol-  
3 1-yl, 5-(trifluoromethyl)imidazol-1-yl, thiazol-5-yl, imidazol-1-yl, 1-methyl-1,3,4-  
4 triazolyl, and 4-methyl-1,2,4-triazol-3-yl.